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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,915	12/08/2000	Satoru Miyashita	101050.01	6866

7590 03/10/2003
Oliff & Berridge PLC
P.O. Box 19928
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EXAMINER

TARAZANO, DONALD LAWRENCE

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 03/10/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-12

Office Action Summary

Application No.

09/731,915

Applicant(s)

MIYASHITA ET AL.

Examiner

D. Lawrence Tarazano

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9, 10. 6) ☐ Other:

Art Unit: 1773

DETAILED ACTION

1. Upon further consideration regarding the claimed structure, the examiner has withdrawn the indication of allowability of the pending claims. The examiner takes the position that the rearrangement of the layers would have been obvious to one having ordinary skill in the art at the time the invention was made, since structure would function in the same capacity.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 25-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasaki et al. (5,895,692).

Shirasaki et al. teach electroluminescent devices (column 4, lines 35+). As shown in figure 1 below: The structure comprises a transparent substrate (11), transparent pixel electrodes (12), a luminescent layer (13) comprising a poly-N-vinylcarbazole (PVCZ) matrix having color pixels (13a, b, c), which had been printed by ink jet or other means and then diffused, into the polymer matrix. The devices also have an electron injection layer (14) deposited over the luminescent layer and a second set of electrodes (15), which would control the lighting of the pixels.

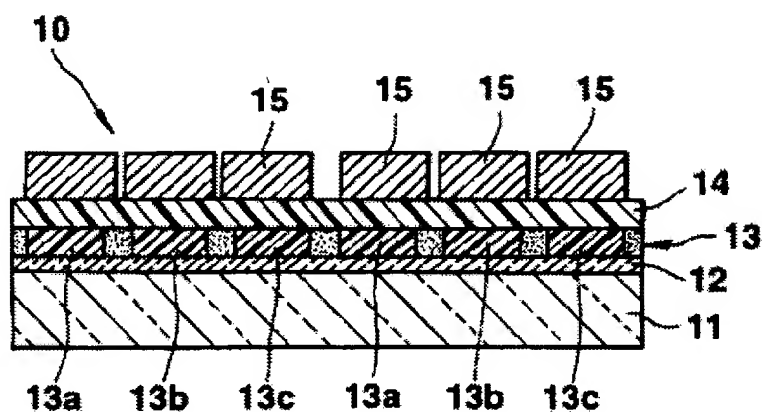
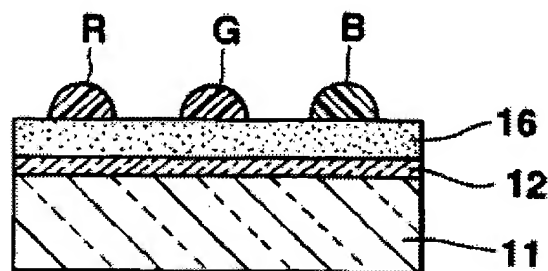
FIG.1

Figure 7B show the R (Red), G (Green) and B (Blue) pixels being formed on the surface of the luminescent layer (16), by a lithographic (coating) or ink jet method (column 7, lines 14+). These pixels represent discontinuous non-overlapping layers and meet the requirement that there are three colored layers.

FIG.7B

These pixels have predetermined shape when printed, and this relates to the dot shape of the pixels in the final product. While a diffusion step occurs in the formation of the structures,

this does not detract from the fact that the shape of the printed pixel is the shape of the pixel in the final product.

Since the colored pixels do not overlap, they do not build on themselves. Each layer of colored pixels covers different areas of the substrate layer. Thus, the layers applied in any order would result in the same product.

Regarding the order of layers: hole transport layer (14), dye layer / luminescent layer and (13), hole transfer layer. It would have been obvious to one having ordinary skill in the art to have changed the order of these two layers between the electrodes (15) and (12) because the device would still function in the same capacity. The order of the layers were merely reversed as they were built up. The device would generate light and electrons would move between the electrodes. There is no reason to believe that the device would function materially differently from what it does now in the prior art.

Regarding the use of a controlling device to separately light the pixel electrodes: pixel electrodes are different colors so that they can be used for full color displays (column 9, lines 10+). Thus, it would have been obvious to one having ordinary skill in the art the time the invention was made to have used conventional controlling means to light the pixels.

Response to Arguments

4. Applicant's arguments with respect to claims 25-38 have been considered but are moot in view of the new ground(s) of rejection.

5. It appears that the applicants claim that the EL layer is formed on top of the hole injection layer and the prior art teaches the converse. However, there does not appear to be any reason why the layer could not be reversed.

Art Unit: 1773

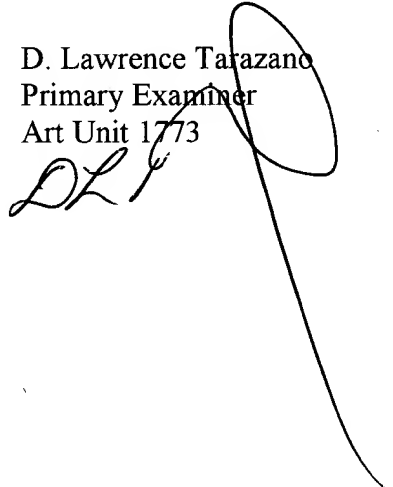
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Lawrence Tarazano whose telephone number is (703)-308-2379. The examiner can normally be reached on 8:30 to 6:00 (off every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on (703)-309-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.

D. Lawrence Tarazano
Primary Examiner
Art Unit 1773

A handwritten signature in black ink, appearing to be 'DLT', is written over the typed name and title of the examiner. A long, thin, curved line extends from the signature downwards and to the right.

dlt
March 7, 2003